Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Cloud Lab on the Cloud**

<https://illinois.pbslearningmedia.org/collection/novalabs/?topic_id=1654#.Wsd8bst3HIV>

The website above, has several videos on clouds and two required interactive activities. Please watch the videos and answer the accompanying questions. The questions are in bold. Your answers should not be in bold. It is suggested that you watch the videos in the recommended order, which is different than the order on the website, and then attempt the interactive activities.

**The Making of a Cloud:**

* **What is the main ingredient of all clouds?**
* **What are some sources of water vapor in the air?**
* **How is air temperature related to the amount of water vapor that the air can hold?**
* **What kind of cycle causes the circular motion of the warmed and cooled water vapor? (Hint: This is not in the video. You have to remember it from previous learning!)**
* **What are some examples of condensation nuclei?**
* **What happens when the water droplets or ice crystals of a cloud become too heavy to stay aloft?**

**Clouds and Weather:**

* **What are some distinctions between clouds and weather?**
* **Which part of Earth absorbs the most energy from the Sun?**
* **How does the Sun's uneven heating of Earth drive weather?**
* **Describe how differences in air pressure create wind.**
* **Why do powerful storms form at frontal boundaries?**

**Severe Storms:**

* **How do clouds form?**
* **Name two types of severe storms.**
* **What three conditions do severe storms require?**
* **How does energy get transferred from Earth's surface into the atmosphere?**
* **What is “unstable air”? How does it contribute to the growth of a storm?**

**Why So Many Cloud Types:**

* **What are the two main characteristics used in cloud classification?**
* **Describe the four shape categories of clouds.**
* **How does the height at which a cloud forms influence its composition?**
* **How can a cloud provide information about winds or forecast the weather?**
* **Describe how clouds and climate change are related**.

**The Coriolis Effect:**

* **Describe why storms spin, otherwise known as the Coriolis Effect.**

**Now, click on this website:** http://www.pbs.org/wgbh/nova/labs/lab/cloud/research/intro/ . Complete the parts of the provided labs as requested.

**Cloud Typing Interactive: Classify 40 pictures of clouds. (Be careful, there are over 200 pictures and they are addictive!) Record how many pictures you got correct \_\_\_\_\_\_\_/40**

**Reconstructing a Storm Interactive:**

1. Click on: Inside a Megastorm
2. Click on: Begin
3. Wait a moment
4. Click on: Click on the first box and read and understand the information.
5. Click on the second box and read and understand the information.
6. In the bottom right corner, there is a square that says “next event.” Click on this. Read or watch and listen to the squares that follow and then click on next event again. Follow this procedure until you come to the one on climate change. Then, click on “Go” to get to the analysis and reconstruction page.
7. Choose one of the yellow swirls or “hurricanes” by clicking on it.
8. Click on each of the boxes on your right to analyze the data. Read the information provided and answer the question asked. There are more tabs on the bottom of your screen. Answer those too.
9. Once you have read and understood the data provided, you can match the swirls at the top of each of the boxes with the swirls in the appropriate place of the storm.
10. Click submit to see if you are right.
11. Click next storm to complete this process for each of the storms.
12. How many did you get right
13. Storm 1 \_\_\_\_\_\_\_/3

Storm 2 \_\_\_\_\_\_\_/3

Storm 3 \_\_\_\_\_\_\_/3

1. Move on to Investigate a Storm
2. Read the instructions on the Introductory page
3. Choose a storm to investigate from the pull down menu in the upper right hand corner.
4. Click on “overlays” in the upper right hand corner to see maps of various variables of the storm.
5. Progress the time period by advancing the day in the upper right hand corner.
6. Use this information to make predictions about the results of the storm. This one is a little harder to navigate, so instead of writing a paragraph, just think about it. If it will help, you may discuss quietly with your neighbor.